

REMARKS

The Examiner is thanked for her careful consideration given the present patent application. However, the references cited by the examiner do not support the rejections presently asserted.

The first obviousness rejection is made over Boskovic, US 5,124,162, in view of Tang, US 5,854,487 and Rohrbach, US 4,511,654. The Office Action concedes that Boskovic fails to disclose a dextrin prepared by treating starch with a beta-amylase wherein retrograde amylose is produced and at least some of the retrograded amylose is separated via ultrafiltration (Office Action at page 2). Boskovic also fails to teach the use of an alpha-amylase to liquefy the starch prior to the treatment with beta-amylase to result in the dextrin and retrograded amylose. (*Id.*) This dextrin is said to be provided by the Tang and Rohrbach references, but that assertion is in error.

Rohrbach teaches a process “for obtaining a high glucose or maltose content syrup.” (Col 2 lines 5-6) The principal purpose of Rohrbach is to maximize the amount of maltose production (maltose is a disaccharide (DP 2) of low molecular weight), and hence to *avoid* the formation of larger molecular weight dextrans. As a consequence, Rohrbach teaches away from any use of the dextrans of the invention. Contrary to the invention, the reference teaches “the permeate which possesses a high glucose or maltose content is recovered” and the higher molecular weight material is recycled (or perhaps discarded). (Col 8, lines 15-27)

This is contrary to the invention. It is not clear that the non-maltose dextrans formed by Rohrbach are the dextrans specified in the pending claims, but even if such were the case, Rohrbach teaches that these materials are undesirable. In hindsight, using the specification of the present application as a template, it might be possible to reconstruct the claimed invention from the Rohrbach and Boskovic references, but that reasoning would not support a Section 103 rejection. Put another way, because Rohrbach teaches the *undesirability* of the

dextrins of larger molecular weight than maltose of the invention, it teaches away from the invention and from the combination with Boskovic.

The third reference, Tang, is relied upon principally for its disclosure of ultrafiltration. This reference does not overcome the deficiencies of Rohrbach or Boskovic. As such, Tang does not support the rejection. But even beyond the foregoing, the teachings of Tang are themselves contrary to the invention. Tang purports to disclose “a process for producing a substantially *non-retrograding* starch hydrolysate” (Col. 2 lines 66-67). Tang’s concern with a non-retrograding material is contrary to the use of ultrafiltration to remove retrograded amylose. Unlike the retrograded amylose that is formed and removed, Tang seeks to avoid formation of retrograded materials.

There is no motivation to combine the three references cited by the examiner. The teachings of the references diverge, and when combined, do not result in the claimed method of the invention

The second obviousness rejection of the office action is made over Kaper in view of Rohrbach. The Office Action concedes that Kaper fails to teach that retrograded amylose is removed by ultrafiltration. (Office Action at page 5), but, even beyond that, Kaper does not teach the removal of any portion of the retrograded amylose. As such, the material of Kaper appears to be different from the dextrin specified in the pending claims, and the Kaper reference does not support the rejection.

Because Kaper is the principal reference, and because it does not support the rejection, the rejection should be withdrawn for this reason alone. But the rejection is even further deficient, because it is premised on a combination of Kaper with Rohrbach. As noted above, Rohrbach teaches the undesirability of high molecular weight dextrins other than maltose, a disaccharide (DP 2) of low molecular weight. Again, these references may be considered together only in hindsight. Even then, the combined references would not yield the dextrin from which at least some retrograded amylose had been removed.

For these reasons, the rejections should be withdrawn and the application passed to allowance.

Respectfully submitted,

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